

Indonesia's inclusive digital economy: Impact across regions, genders and sectors

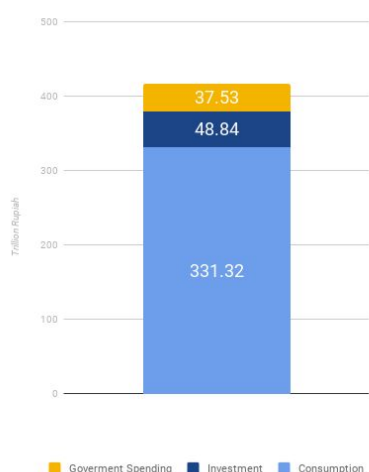
A study by INDEF and LDP supported by Google

Indonesia's digital economy is poised to become the largest in Southeast Asia. Its market value will double in five years and generate more jobs and more consumer choices for an emerging tech-savvy generation. The digitization of the economy is increasing Indonesia's competitiveness and narrowing the divide between regions, genders and sectors of the economy. With Indonesia's 2019-2024 administration commencing soon, it is imperative to analyze the digitized economy with the accurate data.

Study with robust methodology and data. This study analyzed government expenditure data, recorded business investment for digital economy and first-of-its-kind nationwide-and all-provinces stratified random survey of household consumption data to calculate the direct effect. The direct effect then processed by using input/output (IO) table to calculate the indirect effect on GDP and employment.

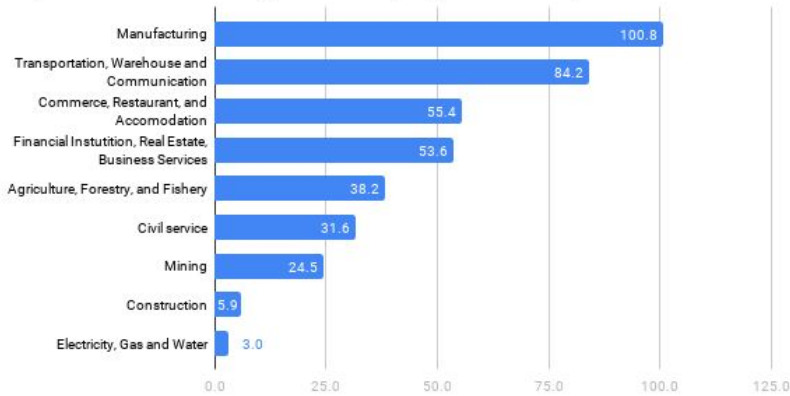
Contribution to GDP and Sectoral Breakdown

Figure 1. 2018 Indonesia Digital Economy



Total contribution of digital economy to Indonesia GDP in 2018 was Rp 814 trillion (USD 56.4 billion) or 5.5% of GDP that add 5.7 million new employment or 4.5% of the labor force. The figure consisted of direct contribution (Rp 417 trillion) and indirect contribution (Rp 397 trillion). The direct contribution to the economy is mainly from household consumption (73.4%), while the rest was from investment (18,3%) and government expenditure (8,3%). The indirect contribution comes from economic value added by sectors with linkage to digitized economy. The top three impacted sectors are manufacturing (25.4%), transportation and communication (21.2%), and commerce (14%).

Figure 2. Value added generated by digital economy activities



Value added generated by digital economy to the manufacturing sector is more than Rp100 trillion (US\$ 7.1 billion) or 25.4% of the total output in 2018. The study found that manufacturing outperformed transportation, warehouse, commerce and financial services in reaping the benefits of digital technologies. Due to the nature of the manufacturing industry, this finding indicates the

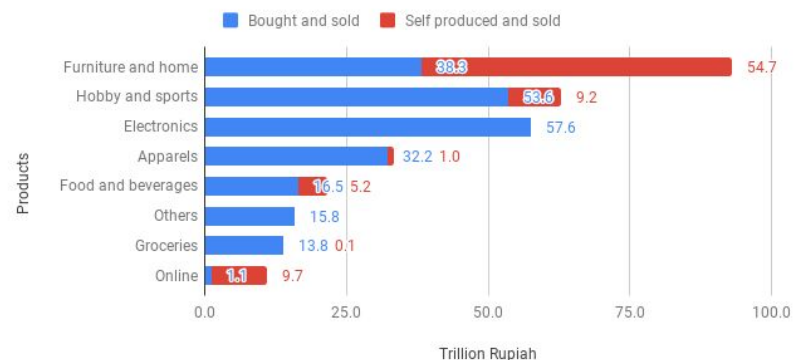
far-reaching impact of digitization across the typically long supply chains. More and more people access the internet through smartphones, most of them are assembled locally. The highest sold local product is furniture and home appliances with 54.7 trillion rupiah. This is an example where small-scale and home industry play an important role.

Local products sold in e-commerce adds up to 25% of the total transaction value.

According to our survey, 25.9% of goods transacted through the internet are locally produced. This indicates the steady growth of local production while highlighting the ample opportunities to increase the capacity of local producers and merchants. Improved market access brought by the digital economy needs to be sustained by increased capabilities of the industry to produce the goods and services needed.

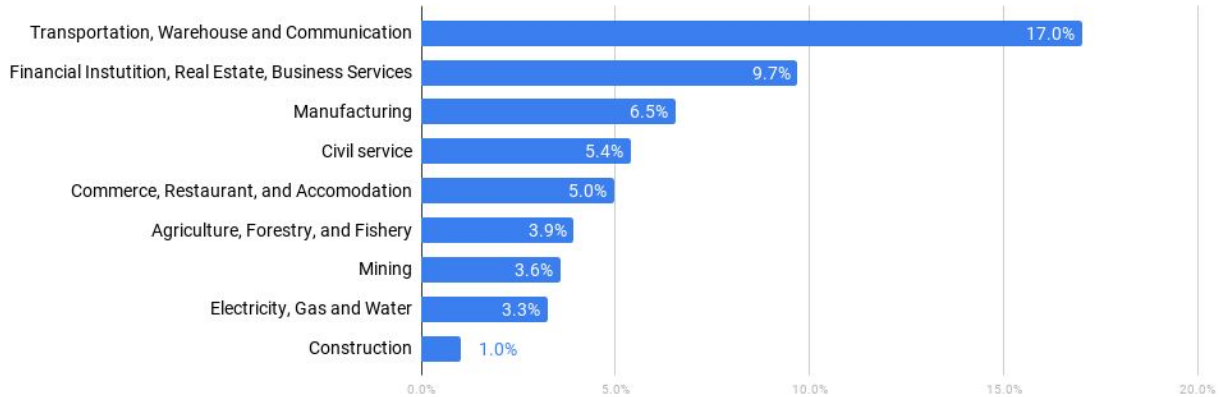
Figure 3. Locally made products contribute significantly to the value of items sold through internet

Source: Indikator - INDEF survey, 2018



The digitization process transform all sectors, including agriculture and its farmers. While the usual suspects are the ICT and manufacturing sector, the story does not end there. In the agriculture sector, the government recently launched and piloted an agriculture digitization program to improve the production by building a digital platform assist farmers on the production as well as the business side. Drones have also been used to increase water efficiency and reduce pesticide use in farms.

Figure 4. Growth in employment due to digitalization in 2018

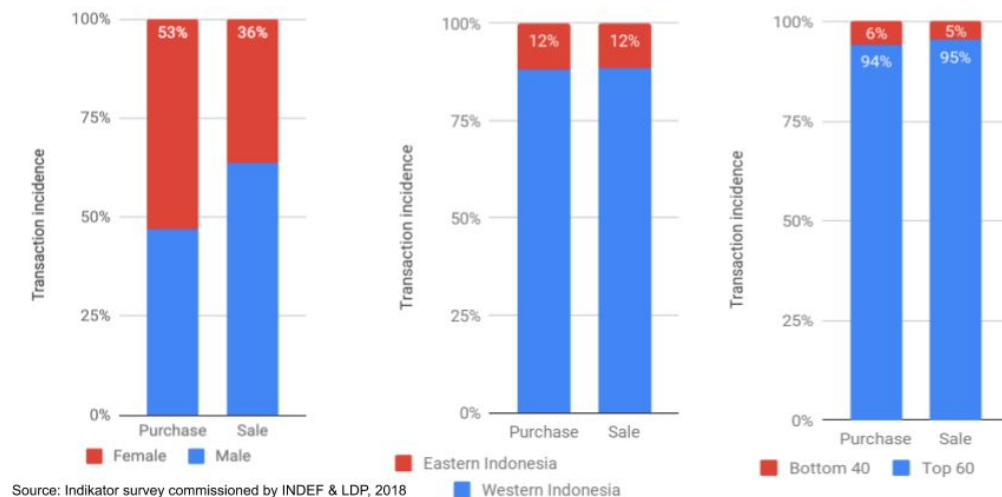


Source: INDEF calculation on input-output data from BPS (2018)

The transportation sector experience 17% growth of employment. Following its rapid growth in gross value, employment in the transportation sector has also increased significantly. The financial/business services and the manufacturing sectors are trailing with 9.7% and 6.5% growth respectively. The growth of employment across major traditional sectors such as agriculture, forestry, and mining show the inclusive effects of digitization for the whole economy.

Regional and Gender Participation

Figure 5. Participation on internet-based transaction



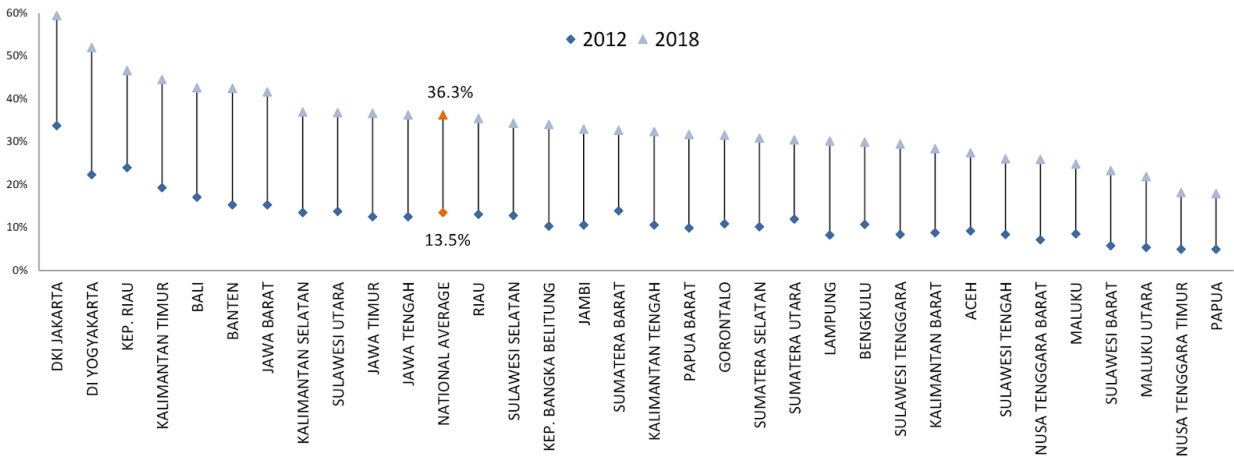
Digital economy in Indonesia is empowering women, including people from eastern parts of Indonesia and the poorest 40% of the population. Women made up 53% of the buyers and 36% of the sellers across all digital transactions in Indonesia. Proportion of female sellers is more than double the proportion of female business owners in Indonesia (15.8%) as surveyed in Women Entrepreneur Index 2018. Indonesia ranked 48 in the index, below Vietnam (31 %),

Singapore (28%), Thailand (25%), Philippines (24%) and Malaysia (18 %). Selling online is a stepping stone to owning a business. In terms of geographic equality, the eastern part of Indonesia has higher share in digital economy (12%) than its share (11,5%) to Indonesian GDP which is encouraging. About 6% of the poorest 40% of the population buy and sell online which indicates ample room for growth in conjunction with the growth of internet access by this group.

Internet Access as a Foundation for Inclusive Growth

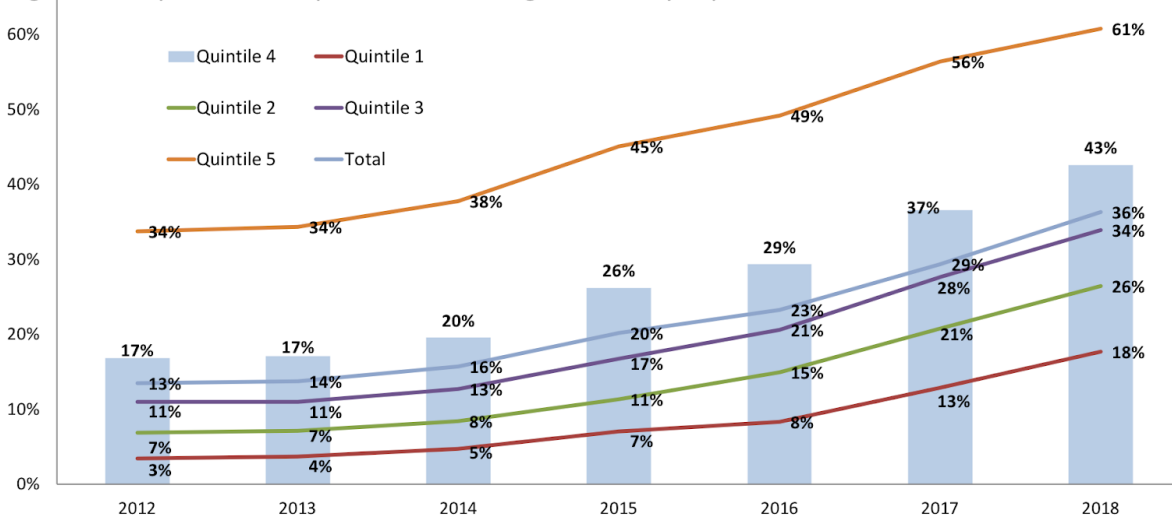
Internet access in the last 5 years has increased 2.6x from only 13,8% of Indonesia population in 2013 to 36.3% in 2018. With a large number of population remains unconnected, digitization will continue to transform various aspects of Indonesian economic and social life in the next five years. If the government could double the internet access in the next five years then transformative change will start to kick in.

Figure 6. Proportion of Population's Accessing Internet By Provinces



Internet access for the poor is rising faster than for the richest. When comparing data between the poorest 20% and the richest 20% of the population, the poorest population had an increase of internet access six fold from 3% to 18% outpacing the speed of internet access growth by the richest which only doubled its number from 34 % to 61% in the last five years. The poorest 20% accessing the internet is about 9.28 million people in 2018.

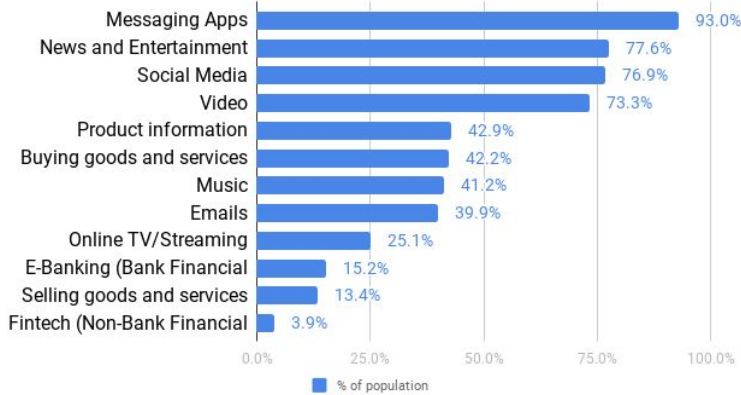
Figure 7. Proportion of Population Accessing Internet By Expenditure Quintiles



Source: Central Bureau of Statistics/BPS (2012-2018), Socio-Economic Survey/SUSENAS

Figure 8. Internet Usage in 2018

Source: Indikator survey commissioned by INDEF & LDP, 2018



The vast majority of Indonesian uses internet for messaging apps (92.97%).

Internet use is no longer about news and entertainment anymore. Around 13.1% of people who use social media and messaging apps are also engaged in selling goods and services, which translates to roughly 12 million people. About two fifths of the people are using the internet to search for product information

and buying. Music and email are enjoyed by more than 40% of the population, while about 10% of the population use internet for financial services and selling goods/services.

Indonesia as a breeding ground for future unicorns.

Indonesia received foreign direct investments (FDI) inflow of Rp 65 trillion (USD 4.6 billion) into the digital related sector and has four unicorn (valuation > USD 1 billion) companies in 2018. However, it barely scraped the potential. Indonesia is

Country	VC/PE Index	Economic Activity	Depth of Capital Market	Taxation	Investor Protection and Corporate Governance	Human and Social Environment	Entrepreneurial Culture and Deal Opportunities
18. China	80.7	113.5	89.4	111.3	58.3	55.2	81.4
28. India	72.2	105.1	78.1	101.3	67.7	46.6	65.1
35. Turkey	65.2	94.3	72.2	107.4	59.1	43.3	55.6
36. South Africa	64.8	48.5	78.8	110.9	71.1	40.1	66.3
37. Indonesia	64.3	95.7	73.1	79.2	46.8	41.0	64.4
39. Russia	63.5	88.1	65.1	97.9	57.2	35.2	69.9
41. Mexico	62.8	90.2	68.8	104.4	60.0	29.9	64.4
42. Philippines	61.3	91.8	70.5	95.7	47.3	48.5	48.7
54. Brazil	57.4	79.2	74.9	21.4	53.5	35.8	54.9
72. Nigeria	50.1	72.6	56.1	53.9	52.2	33.1	42.1

only ranked 37 in the *Global Venture Capital and Private Equity Attractiveness Index 2018*, below Singapore (6), Malaysia (13), and Thailand (27). We are also ranked below developing G20 members: Turkey (35) and South Africa (36). Two soft infrastructure aspects need significant improvement: human and social environment as well as investor protection and corporate governance. When the hurdles clear up, more investment will come that increase people's welfare and employment.

Accelerating the digitization of the economy for more inclusive growth

Inclusive economic growth is dependent upon the quality of hard and soft infrastructure.

To keep the digital economy on track towards inclusive growth, development of hard and soft infrastructure is key. On the hard infrastructure part, making internet access available to everyone at an improved speed is fundamental. We have seen how the marginalized population have benefited from access to digital and we need to ensure this is consistently developed across all regions, genders and income levels.

Our study forecasted the size of Indonesia digitized economy to grow almost double and reach Rp 1,447 trillion (USD 1,02 billion) or 6.4% of GDP in 2024. On top of improved internet access, we need to achieve the next milestone in the development of soft infrastructure such as talent, digital skills, logistics, and access to finance. This can only be realized if we are able to leverage our high number of youth population and develop them into high-calibre talent. Not only does the large number of population need to transform into a talented workforce, but also to have a high-level of digital skills (e.g. digital literacy, basic ICT skills) which will allow them to thrive in the digital world. Finally, improvement to logistics and access to finance are critical in helping businesses to scale up and benefit from the opening up of market access.

Inclusive growth needs to be sustained by a regulatory environment that is set up for success. The regulatory environment for digital innovation should enable the acceleration of economic growth for everyone and ensure that businesses from all sectors are catered for. The digitization of all economic sectors in this report suggests that the whole economy is reaping the benefits of digital and therefore regulations need to adopt the framework of inclusive and sustainable growth rather than simply focusing on the short-term fixes. Long-standing issues such as taxation, personal data protection, cross-border data flows, and tariff barriers to international trade need to be addressed with the perspectives of the whole economy rather than a dichotomy between digital and non-digital.

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